Question reference	PSAR Section	Topic	ARPANSA Comment, Issue or Question and ANSTO's Response
13.1.	13 Conduct of Operations 13.1 Introduction Para 4	Safety will be assured through ANSTO's compliance with such conditions as may be specified by ARPANSA in the Facility Licence, Operating Authorisation and the Reactor Facility Quality Management System, which will be developed during the detail engineering phase.	Please explain the scope, relationships and/or interfaces of the Reactor Facility Quality Management System with the intended training, commissioning and operating quality assurance systems, procedures and arrangements.
			Response: Chapter 18 provides information on the transition of the QA plans. The Reactor Facility Quality Management System will encompass all the operation and maintenance activities within the facility, including training. For Commissioning, a dedicated QA plan will be used (see Chapter 15, section 15.3.1.12). The quality management system will be developed during the detailed engineering phase.
13.2.	13.2 Organisational Structure 13.2.1 Responsible Body 13.2.2 Organisational Structure of the Responsible Body	The different stages of staffing. Changing Staffing Requirements.	ARPANSA considers that the PSAR is a "living document" which is regularly updated into a FSAR at the Commissioning / Operating Authorisation Application stage. Accordingly, the plans and arrangements needed for staffing changes throughout construction, testing, commissioning, maintenance, and operation, including training requirements, should be specified in each version of the PSAR as it is developed into the FSAR. Please provide the current status.
			Response: There are no programmed staff changes during construction. The Commissioning arrangements are described in Chapter 15, while testing is described in the Construction Inspection and Test Plan. Plans and arrangements for operational and maintenance staffing will be developed as part of detail engineering and will be presented in the FSAR.

Question reference	PSAR Section	Topic	ARPANSA Comment, Issue or Question and ANSTO's Response
13.3.	13.2.3 Organisational Structure for the Conduct of Reactor Facility Operations; 13.2.3.3 Support Staff	Lines of authority, responsibility and communication will be defined for the operating organisation in the FSAR. A detailed staffing analysis will be performed. Support Staff provide expertise in operations, engineering, maintenance and radiological controls.	ARPANSA expects that some lines of authority, responsibility and communication will be in place and understood by staff prior to the commissioning of the reactor ie. prior to the completion of the FSAR. ARPANSA expects that the detailed staff analysis would look at the transition stage when greater resources may be required in all sections to ensure appropriate operational, maintenance, engineering and radiological support staff are available for both HIFAR and the replacement reactor.
			Response: Agreed. The aforementioned information will be presented to ARPANSA prior to completion of the FSAR and starting of Commissioning.
13.4.	13.2.3.2 Accredited Operator 13.3 Staff Qualifications and Training	Accredited operators will have two years relevant experience in reactor operation or appropriate tertiary educational credentials equivalent to a technical certificate or higher.	ARPANSA expects the minimum requirements of qualification, experience, training, and accreditation of operating staff to be specified prior to the FSAR.
			Response: Agreed. The minimum requirements of qualification, experience, training, and accreditation of operating staff will be specified prior to the FSAR. This information will be presented to ARPANSA.
13.5.	13.3.2 Training System 13.3.2.1 Introduction	Training is the process by which Reactor Facility staff acquire the requisite skills, knowledge and abilities to operate the facility safely.	Please explain the relationship between the Training Needs Analysis Report and the Manning Analysis and when these are expected to be completed. Please provide a plan and schedule for determining manning levels and training and accreditation of key personnel throughout the construction, commissioning and operating stages.

Question reference	PSAR Section	Topic	ARPANSA Comment, Issue or Question and ANSTO's Response
			Response: The Manning analysis determines the required skills and requirements the personnel should have. It also determines the appropriate size of the operational and maintenance staff, and the posts to be covered. The training plan presents how the training of the personnel is organised, which aspects are covered, and what training tools are to be used, among other aspects. Draft versions of these plans will become available as the detail engineering proceeds and presented to ARPANSA prior to the FSAR.
13.6.	13.3.2.3 Ongoing Training.	Training that is necessary to maintain and enhance the competence of staff in terms of their knowledge, skills and abilities.	What is the time span for re-accreditation and re-training?
			Response: The frequency with which accreditation renewal will be required has not yet been determined. The frequency of training is at the discretion of the licencee with ARPANSA's concurrence, and will be subject to change throughout the life of the reactor; it is therefore not included in the SAR.
13.7.	13.3.3.2 Training for Operations Personnel	Training will include theoretical and practical knowledge of plant systems, their function, layout and operations.	ARPANSA expects that training of accredited operators for the RRR include training on HIFAR as shift supernumerary to gain reactor operating experience prior to the new reactor being commissioned.
			Response: The hiring and training of operators for the RRR is the responsibility of ANSTO. Requirements for experience are given. ANSTO reserves the option of hiring experienced reactor operators or sending them overseas to gain experience in pool type reactor operations. The First Operation Team will be involved in testing and commissioning activities as part of their training.

Question reference	PSAR Section	Topic	ARPANSA Comment, Issue or Question and ANSTO's Response
13.8.	13.6 Maintenance, Testing and Inspection	Maintenance required to ensure the safe and reliable operation of the reactor facility.	ARPANSA expects to review the maintenance plan at the appropriate time, prior to ANSTO accepting responsibility for structures, systems and components. What is "reduction of plant equipment and system material deficiencies"? Will shutdowns be predominantly for refuelling? How much maintenance will be conducted during shutdown? Please describe the Integrated Logistics Support System? "Inspection or testing criteria". This should be 'and' not 'or'. Maintenance, inspection or testing interval. This should be 'and' not 'or'. Responsibilities for inspection, testing or maintenance. This should be 'and' not 'or'. How long is a regular interval? Where are the procedures for modifications and design changes described?

Question reference	PSAR Section	Topic	ARPANSA Comment, Issue or Question and ANSTO's Response
			Response: The maintenance plan will be developed during detail engineering and presented to ARPANSA as part of the application for an operating licence. "Reduction of plant equipment and system material deficiencies" refers to the situation where during operation or maintenance of the reactor, if the facility staff detects any deficiency that needs to be fixed, the maintenance staff will take the necessary steps to repair it. While shutdown will be predominantly for refuelling, preventive or corrective maintenance in those areas that are not accessible while the reactor is in operation will be performed. The Integrated Logistic Support System provides users and plant staff with a combination of support products (e.g. test equipment, workshops, maintenance manuals, procedures, job cards, list of qualified suppliers) and support services (e.g. maintenance management system, training system, configuration control) that ensure that the plant reliability and availability is maintained at the appropriate levels. For example, the maintenance system will comprise: work scheduling and allocation, defect recording and reporting, plant performance trend analysis, change control, spares inventory, control of support and test equipment and maintenance of calibration records. A plant and equipment database with maintenance requirements will also be part of the ILS. Agreed, it should read "Inspection and testing criteria." Agreed, it should read "Maintenance, inspection and testing interval." Agreed, it should read "Responsibilities for inspection, testing and maintenance." These changes will be made in the next revision of the PSAR. Refuelling is scheduled for every operation cycle (some 26 Full Power days silicide fuel, 33 Full Power days for molybdenum fuel) The procedures for modifications and design changes will be developed during detail engineering and will be described in the Plant Manuals and Quality Manual.

Question reference	PSAR Section	Topic	ARPANSA Comment, Issue or Question and ANSTO's Response
13.9.	13.8 Records and Reports	Routine reporting will be a part of normal operations. It has been stated that "Care will be exercised to avoid accumulation of irrelevant or unimportant information so as not to obscure important data."	This appears to be written incorrectly. Should it be "…to avoid accumulation of irrelevant or unimportant data so as not to obscure important information."? The basis for data collection must be firmly established.
			Response: Yes, this will be amended in the next revision of the PSAR.
13.10.	13.8.1.2 Movement of fissile material	This section describes the movements of fissile material in the facility.	This appears to cover only fuel movements. What about irradiations and experiments involving fissile materials?
			Response: Correct. The list will be reviewed to include irradiations and targets for radioisotope production featuring fissile materials.
13.11.	13.8.1.3 Radiation Dose and Medical Examinations	Records of radiation doses to staff will be maintained. Staff exposed to levels of radiation in excess of those permitted for members of the public will be regularly medically examined.	How regular is "regularly medically examined"?
			Response: This frequency will be established when the radiation protection plan and procedures are drafted during the detail engineering phase and will be presented in the FSAR. The frequency will depend on the task being performed.
13.12.	13.8.1.4 Effluent and Environmental Monitoring	Records of liquid and gaseous effluent discharges will be maintained, as well as the records of any other monitoring external to the Reactor Facility buildings.	Please explain what is "any other monitoring external to the Reactor Facility Who will be responsible for maintaining such records?

Question reference	PSAR Section	Topic	ARPANSA Comment, Issue or Question and ANSTO's Response
			Response: " Any other monitoring external to the Reactor Facility buildings" refers to other environmental monitoring that may be done within the LHSTC by ANSTO's Environmental Division. The records of the systems that form part of the Reactor Facility (such as liquid and gaseous monitors) will be kept by the Reactor Control and Monitoring System (RCMS). Records collected by ANSTO's Environmental Division will be maintained by that Division.
13.13.	13.8.1.5 Abnormal Occurrence Reports	Abnormal Occurrences will be recorded.	Please explain the criteria for instigating an Abnormal Occurrence Report and/or Operational Occurrence Reports?
			Response: The criteria regarding the reporting of abnormal occurrences will be developed during detail engineering and will be included in the appropriate procedures within the Operating Manual.